

		LTO-3 FH Ultrium 960	LTO-4 FH Ultrium 1840	LTO-5 FH Ultrium 3280
Dimensions	Form Factor	5¼-inch full-height	5¼-inch full-height	5¼-inch full-height
	Physical (HxWxD) Internal	3.3 x 5.7 x 8.2 in (8.3 x 14.6 x 20.7 cm)	3.3 x 5.7 x 8.2 in (8.5 x 14.5 x 20.7cm)	3.3 x 5.7 x 8.2 in (8.3 x 14.6 x 20.7 cm)
	Physical (HxWxD) External	4.7 x 8.6 x 11.7 in (12.0 x 21.8 x 29.7 cm)	4.7 x 8.6 x 11.7 in (12.0 x 21.8 x 29.7 cm)	4.7 x 8.6 x 11.7 in (12.0 x 21.8 x 29.7 cm)
	Shipping (HxWxD) Internal	10.6 x 10.6 x 13 in (27.0 x 27.0 x 33 cm)	10.6 x 10.6 x 13 in (27.0 x 27.0 x 33 cm)	10.6 x 10.6 x 13 in (27.0 x 27.0 x 33 cm)
	Shipping (HxWxD) External	11 x 12.2 x 15.4 in (28 x 31 x 39 cm)	11 x 12.2 x 15.4 in (28 x 31 x 39 cm)	11 x 12.2 x 15.4 in (28 x 31 x 39 cm)
		LTO-3 FH Ultrium 960	LTO-4 FH Ultrium 1840	LTO-5 FH Ultrium 3280
Weight	Out of box, Internal	4.94 lb (2.24 kg)	4.94 lb (2.24 kg)	4.94 lb (2.24 kg)
	Out of box, External	12.28 lb (5.57 kg)	12.28 lb (5.57 kg)	12.28 lb (5.57 kg)
	Shipping, Internal	7.9 lb (3.6 kg)	7.9 lb (3.6 kg)	7.9 lb (3.6 kg)
	Shipping, External	16.1 lb (7.3 kg)	16.1 lb (7.3 kg)	16.1 lb (7.3 kg)
		LTO-3 FH Ultrium 960	LTO-4 FH Ultrium 1840	LTO-5 FH Ultrium 3280
Capacity	Native	400 GB	800 GB	1.5 TB
	Compressed (assumes 2:1 data compression)	800 GB	1.6 TB	3 TB
	Buffer Size	128 MB	128 MB	256 MB
Performance (1Kb = 1,000 bytes)	Native Data transfer rate	80 MB/s with LTO 3 media 30 MB/s with LTO 2 media 20 MB/s with LTO 1 media	120 MB/s with LTO 4 media 80 MB/s with LTO 3 media 35.6 MB/s with LTO 2 media	140 MB/s with LTO 5 media 120 MB/s with LTO 4 media 80 MB/s with LTO 3 media
	Data transfer rate, compressed (assumes 2:1 data compression)	160 MB/s with LTO 3 media 60 MB/s with LTO 2 media 40 MB/s with LTO 1 media	240 MB/s with LTO 4 media 160 MB/s with LTO 3 media 71.2 MB/s with LTO 2 media	280 MB/s with LTO 5 media 240 MB/s with LTO 4 media 160 MB/s with LTO 3 media
	Burst transfer rate	Ultra320 SCSI: 160 MB/s	Ultra320 SCSI: 190 MB/s 3Gb/sec SAS: 240 MB/s	600 MB/s with 6Gb/s SAS
	Data rate matching range	27-80 MB/s	40-120 MB/s	47-140 Mb/s
	Data access time (from BOT)	46 seconds typical for LTO 1 and LTO 2 media	46 seconds typical for LTO 2 media 52 seconds typical for LTO 3 media	42 seconds typical for LTO 3 media 50 seconds typical for LTO 4 media

		53 seconds typical for LTO 3 media	62 seconds typical for LTO 4 media	52 seconds typical for LTO 5 media
	Rewind time from EOT	< 88 seconds for LTO 2 media < 98 seconds for LTO 3 media	< 92 seconds for LTO 2 media < 102 seconds for LTO 3 media < 124 seconds for LTO 4 media	< 78 seconds for LTO 3 media < 93 seconds for LTO 4 media < 96 seconds for LTO 5 media
	Rewind tape speed	7 m/s for (LTO 3 and LTO 2 media)	7 m/s for (LTO 4 and LTO 3 media)	9 m/s for (LTO 5 and LTO 4 media)
	Average load time	<19 seconds (RW) 22 seconds (WORM)	<19 seconds (RW) 22 seconds (WORM-initialized) Uninitialized WORM media can take up to 70 seconds	<19 seconds (RW) 22 seconds (WORM-initialized) Uninitialized WORM media can take up to 70 seconds
	Average unload time	<19 seconds (RW) 22 seconds (WORM)	<19 seconds (RW) 22 seconds (WORM-initialized) Uninitialized WORM media can take up to 70 seconds	<19 seconds (RW) 22 seconds (WORM-initialized) Uninitialized WORM media can take up to 70 seconds
Security	Encryption	n/a	AES 256 bit	AES 256 bit
	WORM media support	LTO 3 media	LTO 4 media	LTO-5 media
Reliability	MTBF	250,000 hours at 100% duty cycle	250,000 hours at 100% duty cycle	250,000 hours at 100% duty cycle
	Uncorrected Error Rate	1 in 1x10 ¹⁷ bits	1 in 1x10 ¹⁷ bits	1 in 1x10 ¹⁷ bits
Rewriteable Media Compatibility	Read	LTO Ultrium 3 LTO Ultrium 2 LTO Ultrium 1	LTO Ultrium 4 LTO Ultrium 3 LTO Ultrium 2	LTO Ultrium 5 LTO Ultrium 4 LTO Ultrium 3
	Write	LTO Ultrium 3 LTO Ultrium 2	LTO Ultrium 4 LTO Ultrium 3 [unencrypted]	LTO Ultrium 5 LTO Ultrium 4
WORM Media Compatibility	Read	LTO Ultrium 3 WORM	LTO Ultrium 4 WORM LTO Ultrium 3 WORM	LTO Ultrium 5 WORM LTO Ultrium 4 WORM LTO Ultrium 3 WORM
	Write	LTO Ultrium 3 WORM	LTO Ultrium 4 WORM LTO Ultrium 3 WORM	LTO Ultrium 5 WORM LTO Ultrium 4 WORM
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Tape Format	Recording method	16-channel linear serpentine	16-channel linear serpentine	16-channel linear serpentine
	Recording format	LTO Ultrium 3 LTO Ultrium 2	LTO Ultrium 4 LTO Ultrium 3 [unencrypted]	LTO Ultrium 5 LTO Ultrium 4
	Data compression	LTO DC dual mode compression (an enhanced version of ALDC)	LTO DC dual mode compression (an enhanced version of ALDC)	LTO DC dual mode compression (an enhanced version of ALDC)
	Error detection/correction	Reed-Solomon	Reed-Solomon	Reed-Solomon
	Read Channel Technology	Partial Response Maximum Likelihood (PRML)	Partial Response Maximum Likelihood (PRML)	Partial Response Maximum Likelihood (PRML)
	Data Tracks	704	896	1280
	Data Encoding Method	RLL 0,13/11	RLL 0,13/11	RLL 32/33

Interface	Interface type	Ultra320 SCSI (LVDS)	Ultra320 SCSI (LVDS) or 3Gb/sec SAS	6Gb/s Dual Port SAS
	SCSI connector	Internal: 68-pin LVDS External: 68-pin HD LVDS Array module: 80-pin SCA (SCSI and power) Rack-mount: 68-pin HD LVDS	SCSI Internal: 68-pin LVDS SCSI External: 68-pin HD LVDS SCSI Array module: 80-pin SCA (SCSI and power) SCSI Rack-mount: 68-pin HD LVDS	
	SAS connector		SAS Internal: mini-SAS SFF-8482 SAS External: mini-SAS SFF-8088	SAS Internal: mini-SAS SFF-8087 SAS External: mini-SAS SFF-8088
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Power Specifications	Power requirements, Internal (including rack-mount model)	+5V@3.5A (typical) +5V@4.5A (max) +12V@1.0A (typical) +12V@2.0A (max)	+5V@4.2A (typical) +5V@4.5A (max) +12V@0.75A (typical) +12V@2.5A (max)	+5V@3.6A (typical) +5V@3.7A (max) +12V@0.7A (typical) +12V@2.2A (max)
	Power requirements, External	100 to 240 VAC, 50-60 Hz, auto-ranging, 0.8A max	100 to 240 VAC, 50-60 Hz, auto-ranging, 0.8A max	100 to 240 VAC, 50-60 Hz, auto-ranging, 0.8A max
	Power requirements, Array Module	+5V@3.5A (typical) +5V@4.5A (max) +12V@1.0A (typical) +12V@2.0A (max)	+5V@4.2A (typical) +5V@4.5A (max) +12V@0.75A (typical) +12V@2.5A (max)	N/A
	Power consumption	12 Watts idle 30 Watts typical 35 Watts max	12 Watts idle 30 Watts typical 52 Watts max	7 Watts idle 24 Watts typical 41 Watts max
Standards Compliance	CSA Certification to C22.2, No.60950 (cCSAus) TÜV EN60950 (IEC 60950 and EN60950) CE Declaration of Conformity FCC 47 CFR Parts 15 NOM VCCI C-TICK RRL BSMI GOSH CB Certificate and Report (IEC 60950)			
Front Panel LED Indicators	FREECOM LTO Ultrium 2,3 and 4 tape drives have four LED indicators on the front panel: <ul style="list-style-type: none"> • Ready • Drive Error • Tape Error • Clean 			

	FREECOM LTO Ultrium 5 tape drives have five LED indicators on the front panel: <ul style="list-style-type: none">• Ready• Drive Error• Tape Error• Clean• Encryption			
		LTO-3 FH Ultrium 960	LTO-4 FH Ultrium 1840	LTO-5 FH Ultrium 3280
Freecom Product Codes	Internal	LVD-SCSI: 31891	LVD-SCSI: 29793	SAS: 34378
			SAS: 31889	
	external	LVD-SCSI: 31892	LVD-SCSI: 29794	SAS: 34380
			SAS: 31890	